

input impedance lower than a standard impedance and an output impedance substantially equal to said standard impedance." This is supported by the description on page 22, lines 2-4 of the specification, according to which "low impedance isolation 3A" corresponding to "non-reciprocal circuit element" has the features in claim 1.

It is noted that claim 1 has been amended to correct informality. Hence, the claim amendment does not narrow the scope of the claims for reasons related to the statutory requirements for a patent.

Further, the specification has been objected to because the Examiner believes that "isolator 3" on page 19 should be --isolator 3A--.

The specification has been corrected in accordance with the Examiner's request.

#### *REJECTION OVER MAKINO*

Claims 1-6, 8, 33-38, and 40 have been rejected under 35 U.S.C. 102(b) as being anticipated by Makino et al. '887.

This rejection is respectfully traversed for the following reasons.

It is well settled that the Examiner bears the initial burden of establishing a *prima facie* basis to deny patentability to a claimed invention under any statutory provision. *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). Anticipation under 35 U.S.C. § 102 requires the disclosure in a single reference of each element of a claimed invention. *Minnesota Mining & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 24 USPQ2d 1321 (Fed. Cir. 1992). In rejecting a claim under 35 U.S.C. § 102, it is incumbent upon the Examiner to point out specifically wherein an applied reference discloses each feature of the claimed invention. *In re Rijckaert*, 9 F.3d 1531, 28 USPQ2d

1955 (Fed. Cir. 1993); *Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 221 USPQ 481 (Fed. Cir. 1984). It is respectfully submitted that the Examiner did not discharge that burden.

Claim 1 recites an input terminal to receive an input signal; an output terminal connected to the non-reciprocal circuit element; an amplifier element to amplify the input signal; and one or a plurality of harmonic processing circuits arranged between the amplifier element and the output terminal to process a harmonic in an output signal of the amplifier element.

Independent claim 33 recites a radio transmission device, comprising:

- a high efficiency amplifier having an output impedance lower than a standard impedance;

- a non-reciprocal circuit element having an input impedance lower than the standard impedance and an output impedance substantially equal to the standard impedance and

- a transmission line to connect the high efficiency amplifier and the non-reciprocal circuit element.

The high efficiency amplifier includes:

- an input terminal to receive an input signal,
- an output terminal connected to the non-reciprocal circuit element via the transmission line,

- an amplifier element to amplify the input signal, and

-one or a plurality of harmonic processing circuits arranged between the amplifier element and the output terminal to process a harmonic in an output signal of the amplifier element.

It is submitted that the Examiner did not point out specifically wherein Makino discloses the claimed harmonic processing circuit arranged between the amplifier and the output terminal. It is respectfully submitted that the reference does not describe this circuit. As shown in FIG. 2, no harmonic processing circuit is provided between the amplifier 15 and the output terminal of the power amplifier 10.

It appears that the Examiner regards "output matching circuit 16" or "impedance conversion circuit 6" shown in Fig. 2 of Makino as an element corresponding to "harmonic processing circuit(s)."

First, as demonstrated below, the "output matching circuit 16" does not correspond to the claimed harmonic processing circuit.

According to the description in column 4, lines 54-56 of Makino, "output matching circuit 16" having an output impedance of 2-12.5  $\Omega$  removes the reactance component only. The reactance component is eliminated for fundamental-wave-matching, and thus it seems that the impedance of the fundamental wave is converted. On the other hand, the harmonic processing circuit of claims 1 and 33 processes the harmonic, i.e., frequency component which is at least twice that of the fundamental wave. Accordingly, the output matching circuit cannot perform functions of the harmonic processing circuit.

Second, as demonstrated below, "impedance conversion circuit 6" does not correspond to the claimed harmonic processing circuit.

As suggested by the Examiner, "impedance conversion circuit 6" seems to function as a low-pass filter. However, as shown in Fig. 2 of Makino, "impedance conversion circuit 6" is connected to the outside of the power amplifier 10. Thus, "impedance conversion circuit 6" is not connected "between the amplifier element and the output terminal" as harmonic processing circuit recited in claims 1 and 33.

Accordingly, it cannot be said that Makino describes the claimed invention within the meaning of 35 U.S.C. § 102. *Minnesota Mining & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc., supra.* Applicants, therefore, respectfully submit that the rejection of claims 1-6, 8, 33-38, and 40 under 35 U.S.C. § 102 as anticipated by Makino is untenable and should be withdrawn.

#### *REJECTION OVER THE ADMITTED PRIOR ART*

Further, claims 1-6, 8, 33-38, and 40 have been rejected under 35 U.S.C. 102(b) as being anticipated by the admitted prior art. The Examiner takes the position that FIG. 35 of the present application describes all of the claimed elements. This rejection is respectfully traversed.

Anticipation under 35 U.S.C. § 102 requires the disclosure in a single reference of each element of a claimed invention. However, the background portion of the present application does not describe each element recited in independent claims 1 and 33.

For example, claim 1, as corrected, and claim 33 recite a non-reciprocal circuit element having an input impedance lower than a standard impedance and an output impedance substantially equal to the standard impedance.

On the other hand, as described on page 2, lines 8-12 in the specification of the present application, the non-reciprocal circuit element (isolator) 103 shown in Fig. 35 has input/output impedance of  $50 \Omega$  (standard impedance).

Hence, the background portion of the specification does not anticipate the claimed invention. Accordingly, the rejection of claims 1-6, 8, 33-38, and 40 under 35 U.S.C. 102(b) as being anticipated by the admitted prior art should be withdrawn.

In view of the foregoing, and in summary, claims 1-6, 8, 33-38, and 40 are considered to be in condition for allowance. Favorable reconsideration of this application, as amended, is respectfully requested.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

**IN THE SPECIFICATION:**

Second full paragraph on page 19 now reads as follows:

Fig. 3 shows an example of a structure of a low impedance isolator [3] 3A;

Fourth full paragraph on page 19 now reads as follows:

Fig. 5 is a diagram referenced for describing impedance between high efficiency amplifier 1A and an isolator [3] 3A;

Sixth full paragraph on page 19 now reads as follows:

Fig. 7 is a diagram referenced for describing impedance between high efficiency amplifier 1A and an isolator [3] 3A;

Seventh full paragraph on page 19 now reads as follows:

Fig. 8 is a diagram referenced for describing impedance between high efficiency amplifier 1A and an isolator [3] 3A;

**IN THE CLAIMS:**

Claim 1 now reads as follows:

1. (Amended) A high efficiency amplifier, connected to a non-reciprocal circuit element[,] having an input impedance lower than a standard impedance and an output impedance substantially equal to said standard impedance, comprising:

an input terminal to receive an input signal;

an output terminal connected to said non-reciprocal circuit element;

an amplifier element to amplify said input signal; and

one or a plurality of harmonic processing circuits arranged between said amplifier element and said output terminal to process a harmonic in an output signal of said amplifier element.